

ABSTRACT OF THE DISCLOSURE

5 A desired acoustic signal is extracted from a noisy environment by generating
a signal representative of the desired signal with a processor. The processor receives
aural signals from two sensors each at a different location. The two inputs to the
processor are converted from analog to digital format and then submitted to a discrete
Fourier transform process to generate discrete spectral signal representations. The
spectral signals are delayed by a number of time intervals in a dual delay line to
10 provide a number of intermediate signals, each corresponding to a different spatial
location relative to the two sensors. Locations of the noise source and the desired
source are determined and the spectral content of the desired signal is determined
from the intermediate signal corresponding to the noise source locations. Inverse
transformation of the selected intermediate signal followed by digital to analog
15 conversion provides an output signal representative of the desired signal. Techniques
to localize multiple acoustic sources are also disclosed. Further, a technique to
enhance noise reduction from multiple sources based on two-sensor reception is
described.